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# AMMUNITION BULLETIN Nº21

# FOR INSPECTING ORDNANCE OFFICERS

AND

DIVISIONAL AMMUNITION OFFICERS.

(JULY 1941.)

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#### AMMUNITION BULLETIN NO.21.

for

## INSPECTING ORDNANCE OFFICERS,

and

#### DIVISIONAL AMMUNITION OFFICERS.

#### Issued by -

CHIEF INSPECTOR OF ARMAMENTS,

#### WOOLWICH.

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## 300. SHELL H.E. - MARKING INDICATING LIMITED LIFE IN HOT CLIMATES.

H.E. shell of calibres below 12-inch (other than those for A.A. guns) when filled T.N.T. for issue to hot climates and not provided with an exploder container normally have C.E. exploders in the paper tube of the exploder cavity or a C.E. top exploder with a bottom exploder of T.N.T. exploder flake. The use of C.E. exploders ensures that prolonged storage in a hot climate will not result in a serious loss in the efficiency of the exploders through the absorption of the oil which may exude from the T.N.T. filling at high temperatures.

In order to meet urgent requirements the use of top and bottom exploders of T.N.T. in shell of this type has recently been approved as an emergency expedient with a limited life if issued to hot climates.

To facilitate the identification of this type of shell a new system of marking has been introduced in substitution of the ring of red crosses, the normal marking stencilled on H.E. filled T.N.T. or Amatol suitable for hot climates.

The new marking consists of a ring of spaced red crosses with red horizontal lines in the spaces, (i.e. X - X - X) and indicates that the shell should not be issued to hot climates unless absolutely necessary, and that they should be fired as soon as possible when so issued. In this connection "Hot Climate" has been defined as stations where the mean temperature for the hottest month of the year exceeds  $90^{\circ}$ Fahrenheit. This is taken to correspond to an absolute maximum shade temperature of  $120^{\circ}$ F. and assumes that the shell will have protection from direct sun. This would apply to tropical Africa, Arabia, Iraq, Iran and parts of India but not to territories bordering on the Mediterranean.

## 301. CORDITE, H.S.C. AND H.S.C.T. - TESTS AND SENTENCES.

The following table of tests and sentences has recently been approved:-

Heat Test	0-2-	Carbamite	Sen	Sentences		
(at 150°F.)	Colour No.	Content.	Mean Temp. of Storage below 80 <sup>8</sup> F.	Mean temp. of Storage 80°F. or above		
Over 4.	10 or below		Re-test after 3 Yrs.	Re-test after 3 Yrs.		
•	Over 10.	Over 2	11 11	Re-test after 2 Yrs.		
		2 or Over 1	Re-test after 2 Yrs.	Re-test after 1 Yr.		
or less		1 or less	Destroy	Destroy		

Notes. 1. Carbamite content estimations are not required until a colour number over 10 is attained and thereafter cordite will be tested by carbamite content in lieu of the colour test.

When cordite is sentenced for carbamite estimation, a sample of about 1-lb. of the lot concerned will be consigned to the C.O.O., Royal Arsenal, Woolwich. (See paras.37 and 51 of Pamphlet No.7, R.A.O.S. Part II).

2. In the event of either heat test or carbamite test giving a result below the specified minimum, the cordite will be destroyed irrespective of other test results.

# 302. FUZE, TIME, NO.208, MARK I. Fig. 105.

This detonating mechanical time fuze with a maximum time of burning of 43 seconds has been introduced for use with the 3.7-inch and 4.5-inch Q.F. guns. The main differences between this fuze and fuze No.207 are:

- (a) The magazine is filled C.E. instead of gunpowder. The fuze is therefore capable of bringing about the detonation of the bursting charge in the shell without the use of a gaine.
- (b) The introduction of a C.E. filled magazine has necessitated the provision of a safety shutter.
- (c) The clockwork mechanism, which is generally similar, is located lower in the fuze body and so enters the fuze hole of the shell. In this position the abnormal movements of the mechanism in worn guns which are liable to interfere with the correct functioning and result in "blinds" are reduced.
- (d) Independent rotation of the dome, relative to the fuze body, in flight, is prevented by means of an arrangement of locking pins instead of a locking ring and edged locking pins.
- (e) Consequent on the lower location of the clockwork mechanism and the inclusion of a shutter above the magazine the length of the fuze below the flange is considerably increased and the screw-threaded portion is greater.

The magazine which is held in the lower part of the fuze body by a screwed ring contains a pellet of C.E. and is provided with a C.E. stemmed channel in its top end. This channel is lightly closed at the top by a thin portion of the brass from which the magazine is formed and is displaced from the centre towards the position of the 5 grain lead azide detonator.

The shutter consists of a brass slide carried in a groove which is formed on the upper side of the magazine. Two brass dowel pins are also fitted to the upper side of the magazine to position two springs which engage in the shutter and keep it in the safe position until overcome by centrifugal force in flight. The shutter is provided with an oblique centrifugal force in flight. The shutter is provided with an oblique channel, stemmed with C.E. which is aligned between the detonator and the stemmed channel in the top of the magazine when the shutter has been moved to the armed position by centrifugal force set up by the rotation of the projectile in flight.

The locking arrangements, to prevent the time setting being altered by independent movement of the dome whilst the fuze is in flight, consists of three silver steel pins carried each in a vertical hole. These holes are drilled in the wall of the dome from the underside at equidistant positions. Suspended within and near the top of the dome by three copper shearing pins there is an arrangement of weighting discs. This arrangement comprises a large brass disc secured to the dome at three equidistant points around its periphery by copper shearing pins. Three smaller brass discs are secured by screws to the underside of this large disc. These three discs protrude beyond the periphery of the large disc at three points and enter recesses provided in the wall of the dome over each of the vertical holes containing the silver steel locking pins. On acceleration the weighting discs set back, severing the shearing pins. The protruding portions of the three smaller discs coming in contact with the forward ends of the locking pins cause the pins to move to the rear thus forcing the rear ends to enter a limited space between the fuze body and a protruding ring formed on the underside of the dame and locking these two portions together.

The cap, screwed collar, wire ring and setting graduations are similar to those of the fuze No.207.

The forming of a step on the body in lieu of a washer has been abolished, (Vide Item 182, Bulletin No.16). A brass or timplate washer is used under the flange.

# HEAVY AND SUPER HEAVY ARTILLERY EQUIPMENTS.

Statement of tubes used and details of packages.

The state of the s	
Calibre	Means of Ignition.
7.2 and 8-inch Hows. 9.2-inch Mk.XIII Gun. 9.2-inch Mk.II How. 12-inch How. 14-inch Gun. 18-inch How.	Tube, percussion, S.A. Ctge. Mks.I & II. Tube, vent, percussion .4-inch. Tube, percussion, S.A. Ctge. Mks.I and II.  -do- Mks.I, II, III and IV. Tube, vent, percussion, .5-inch. (Tube, vent, electric, .5-inch or (Tube, vent, percussion, .5-inch.

#### **PACKAGES**

Tube No.in T.P.Box		T.P.Boxes in Wooden Case.	Stowage Dimensions of Case.				
S.A. Ctge. Vent .4-inch Vent .5-inch	T 3 20 T 7 10 T 9 20	10 10 10	15.3 x 7.4 x 4.3 inches. 12.4-1b. 18.4 x 7.3 x 3.3 " 13.5-1b. 18.6 x 9.3 x 9.3 " 54-1b.				

# 304. FUZE, PERCUSSION, D.A., NO. 244, MK.I. Fig. 106.

This is a detonating fuze of 1.2-inch gauge and of the No.242 type with a delay action. The direct action firing arrangements consist of a needle carried in a corrugated copper disc positioned over a 1.62 grain detonator containing R.P.P. powder and detonating composition "B". The detonator holder, which is screwed into the body of the fuze from the underside and shaped to provide accommodation in the body for a bag of G.12 gunpowder, also carries a 5 grain lead azide detonator in its lower part. Flash channels near the top of the holder admit the flash from the upper detonator to the G.12 powder in the G.12 powder to the lower detonator which is situated above the shutter and the stemmed channel of the magazine. The shutter has the same type of spring as that used in the No.242 fuze and is similar.

The fuze is used with the Q.F. 6-pr, 10-cwt. gun in H.E. shell.

## 305. FUZE, PERCUSSION, NO. 232 - NOMENCLATURE.

Reference Item 252, Bulletin No.19. The allocation of the above nomenclature to No.231 fuzes filled non-delay has been cancelled. The nomenclature of the No.231 fuze will have the letters "ND" added after the number, when filled non-delay, the original mark being retained.

#### 306. FUZES, AIRCRAFT, NOMENCLATURE.

Aircraft fuzes, hitherto in a numerical series of their own for nomenclature, will in future form part of the general numerical series for artillery fuzes commencing at No.844. This number has been allocated to "Fuze, aircraft, smoke-float, No.44, Mark I" which now becomes "Fuze, aircraft, smoke-float, No.844, Mark I".

# 307. FUZE, PERCUSSION, D.A. NO.117 - USE DISCONTINUED IN SHELL OF TANK EQUIPMENTS.

The use of the No.117 fuze in shell, Q.F., 3-inch howitzer has been discontinued; the table under Item 269 in Bulletin No.19 should be amended accordingly.

The fuze will not be used in shell, Q.F. 3.7-inch mortar.

## 308. FUZE, TIME, NO. 207, TYPE, USE OF PLASTIC NOSE CAPS.

The use of plastic nose caps for fuzes of the No.207 type has been approved. Spare caps are provided to replace those damaged in transport, etc.

## 309. PRIMERS, PERCUSSION, Q.F. CARTRIDGE. WATERPROOFING.

To improve the waterproofing of the joint between the cap and the primer body the use of Composition R.D.1160 in lieu of R.D. Cement has been approved.

Composition R.D.1160 has the following composition:-

Gum Dammar Castor Oil Crepe Rubber Carnuba Wax Hydroquinine	35% 36% 10% 18%
	100

# 310. TUBES, FUZE, SEALING MARKS I AND II. INTRODUCTION FOR F.I.D., CORDTEX, ETC.

The adoption of blank detonator tubes as service stores for sealing the ends of Fuze, instantaneous, detonating, cordtex, etc. (Vide Item 133, Bulletin No.13) has been approved.

The designation of these tubes is as follows :-

#### Tube, fuze, sealing, Mark I.

This mark covers 6000 blank No.8 detonator tubes already provisioned. No more are likely to be required as the Mark II serves equally well and requires less metal.

#### Tube, fuze, sealing, Mark II.

The Mark II is a No.3.A. blank detonator tube for future use,

#### 311. PROPELLANTS. M.X.4.

The use of M.X.4. for burst short charges in Q.F. 4.5-inch and 3.7-inch guns and, if required, 3-inch 20-cwt. guns has been approved. The composition of the U.S.A. propellant varies to a certain extent but is in the order of :-

Nitrocellulose Nitroglycerine Dinitrotoluene Diphenylamine Volatile matter Calcium carbonate	68.5 to 70% 25 5 .5 .5 .5
	100.0

# HEAVY AND SUPER HEAVY ARTILLERY EQUIPMENTS.

312.

Weights and Dimensions of B.L. Ctges. and Packages.

4	
	The Asset of the Contract of t
	with Modin
	re included w
YTY CONTRACTOR	Som Rom we
ATA AM House Mr VIV	THE THE PART OF THE
LOCUSIES FOR B.I. 6	

		ŗ	Explosive Qty.		70 35 35	)	45.8 48.8 44 67 12.2	23.6 24.1 24.1 28.8			
. No.3)						Gross Weight lb.		105 76 68	. Laboration	77 82 7 <b>8</b> 709 109	55 50 50 50 50 50 50 50
in Items 17 and 18 Bulletin No.3)	PACKAGES.	4	Stowage Dimensions Inches		32 x 13.5 x 13.5 38 x 11.9 (crated) 35.9 x 11.4 (crated)	·	35.9 x 11.4 (crated) do. do. 38 x 11.9 (crated) do.	35.9 x 11.4 (crated) do. do. do. dc. 22.7 x 15.1 (crated)			
		h013-	Sprou		400		4- KJ 4- 4- KJ				
Artillery Equipments	i me e	Type & No			Box C141(Wood M.L) Cyl. 36 (Zinc) Cyl. 50 (T.S.)		Cyl. 50 (T.S.) do. do. Cyl. 36 (Zinc) do.	Cyl. 50 (T.S.) do. do. do. Cyl. 42 (T.S.)			
with Medium		Dimensions	Inches		27.5 x 7		26.5 x 8 9.3 x 8 22.6 x 82 30.3 x 8.5 10.3 x 6.8	31.5 x 8.3 do. do. 29.5 x 8.3 18.2 x 7.5			
gun were included with Medium	CARTRIDGES.	Nature		27 j	MD, RDB.8 WO57, NMO61		MD, MC, RDB.16 do. MD.26 W173, SC.150 do.	MDT, RDBT. 20-10. WT. 206-100 WT. 206-100 WT. 206-100 WT. 112, WM 118.			
ing vrv-vii	CARTI	Weight	lb. oz. dr.		17 8 1	I	45 12 16 4 67 12 14 1 1	23 12 - 24 1 6 24 1 6 24 1 6 28 12 -			
- Amounts: (c. 20)		Charge	والإنجاز والمراجعة		Secs.		full, in 2 (parts 2 Super. Super, in 2 (parts.	Core & 5 Secs. 290-lb.Shell do. do. 315-lb.Shell Super (315-lb.shell).			
	Calibre		7.2-inch How.	2	How.	9.2-inch	Mk.XIII 3un. (Rail Mtg)	9.2-inch Ik.II Iow.			

29.5 29.5 4.8	78.3	400 82	96 98 78
43 54 52 52	7.	C C C C C C C C C C C C C C C C C C C	140 140 135
19.8 x 12.5 dia. 22.7 x 15.1 (orated) 19.8 x 12.5 dia. 22.7 x 15.1 (orated)	28.6 x 13.1 x 13.1	30.4 x 14.4 dia,	22 x 14.4 dia. do. 18.5 x 17.7 dia.
agen agen agen agen agen	gy mass	Constant Vicensia (Marie Carlos Carlo	4m 4m 4m
Contr. C.233 (paper) Cyl. 42 (T.S.) Contr. C.233 (paper) Cyl. 42 (T.S.)	Box 0.160 (wood M.L.)	Improvised do.	Improvised do. do. contr.C.244 (T.3) do. contr.C242(T.S)
17.3 x 11	24.5 × 10.5	34.3 x 12.5 34.3 x 12.5 28.5 x 12.5 28.8 x 12.5	20.5 x 11.5 20.5 x 11.5 29.8 x 11.5 20.3 x 12.2 16.8 x 14.8
м <b>D,</b> RDB. 8 <b>wd5</b> ; <b>sc.</b> 048 мD, мс, RDB.16 W.124., SC.105	MD, RDB.45	SC.103 SC.103 SC.103 SC.103	SC.150 SC.150 SC.150 SC.150 SC.150
l l		11 11	3 3 8 8 8 8
	. <del>,</del>	74 4 779 4 400 882	83.7 101 96 84.
Short Range:- 29 (Core & 5 Secs.)  Long Range:- 4.8	4 chge. 78	Short Range:- (74, Core & 2 secs. (74, 79, 25/L Shell:- Core & 2 Secs. (100, Core & 2 Secs. (82, 100)	Long Range: Rear Centre Front (4 Secs.) (1 S/L Shell: Rear Centre Front (3 Secs.)
2-inch Iow.	44-inch Gun	18-inch How.	

\* In accordance with pera.23 Magazine Regulations Part I, 1934.

## HEAVY AND SUPER HEAVY ARTILIERY EQUIPMENTS.

Weights	and Dimensions	of	Projectiles.
---------	----------------	----	--------------

-		•		
Calibre	Nature	Weight	Stowage Dimensions (With plug & grummet)	Explosive Quantity
7.2-inch	H.E.	1b. 200	inches. 35.7 x 8.7	1b. 27.8
8-inch. How.	H.E. C.P. (Shellite)	200 200	30 x 9.5 26 x 9.5	31 15.8
9.2-inch Mk.XIII Gun.	H.E.	380	33.8 x 10.8	32.5
9.2-inch Mk.II How.	H.E. Mks.XIIA,XIVA & XVA H.E. Streamlined C.P. (Shellite)	290 290 315 290	32.7 x 10.8 28.5 x 10.8 38.9 x 10.8 29 x 10.8	47 30 50 24
12-inch How.	H.E. C.P. (Shellite)	750 750	40.9 x 14 40 x 14	76.4 42.8
14-inch Jun.	н.Е.	1586	62.3 x 16	154
8-inch low.	H.E. Mk.IIA H.E. Mk.ID Streamlined H.E. Mk.IID Streamlined C.P. (Shellite) C.P.B.C.	2261.9 2500 2500 2500 2500	64.4 x 21 79.4 x 21 78.7 x 21 61 x 21 81.4 x 21	235.7 394.5 384.5 171.8 357.3

<sup>\*</sup> In accordance with Para.23, Mag. Regs. Part I, 1934.

# 314. SHELL, Q.F., H.E., 3.7-INCH & 4.5-INCH GUNS. METHODS OF FILLING R.D.X./T.N.T.

The use of R.D.X./T.N.T. fillings for the abovementioned shell has been approved. The method of filling design, design No.12568, consists of a bursting charge of R.D.X./T.N.T. 60/40 with a T.N.T. surround to the exploder cavity, a  $2\frac{1}{4}$ ,  $1\frac{1}{2}$  or  $1\frac{1}{4}$ -oz. red phosphorus smoke box, a "W" bag exploder of C.E. and the No.11 gaine.

For the 3.7-inch the No.199, 207 or 209 fuze is used. For the 4.5-inch the No.207 or 209 fuze is used for anti-aircraft and the No.230P fuze for anti-ship.

The nature of the filling is indicated by a green band on which is stencilled "R.D.X./T.N.T. 60/40".

# 315. CARTRIDGE, M.L. 3-INCH, MORTAR, AUGMENTING. LABELLING.

The use of a square label, giving the lot number only of the propellant, in place of the present more detailed circular label has been approved. In the case of cartridges assembled on the bombs in Royal Ordnance Factories only one cartridge in six (i.e. one cartridge per bomb) will be labelled. These changes have been introduced in order to simplify the production of labels and reduce the time required for the preparation and affixing of labels.

## 316. PROPELLANT CODE LETTERS.

Reference Item 86, Bulletin No.9. The propellant code letter "N" is used to indicate N.C.T.

The code letter "I" has recently been approved to indicate N.C.T./F.N.H.

## 317. STATION MONOGRAMS.

Reference Magazine Regulations, Part 1, 1934, Appendix III. The following additions are notified.

		$\mathbb{G}\mathbb{M}$
L	Grantham (Springfield Rd.)	
<b>-</b>	Healey House, Rochdale.	HYH
L	nearcy house,	KDA.
L	Kandura.	77 <b>7</b> 1.T
L	Kinnegar.	KN
		LGS
L	Lagos.	ΓX
N	Londonderry.	
-	Nethercraigh Bleachworks, Paisley.	NB
L		RS
${f r}$	Rowntrees	SDE
L	Shrawardine.	
L	Stromness	SMS

# 318. SMALL ARM AMMUNITION OF U.S.A. MANUPACTURE. BASE MARKING.

The foblowing base markings will be found on small arm ammunition manufactured by Winchester Repeating Arms Company and Remington Arms Company.

manufactured by Winchester Repeating Arms Company and Russia						
Calibre	Base Marking.	Manufacturer.				
.22 .30 .30 .300 .303 .303	H Super Speed .30 W.C.F. R.A.40 (discontinued 31.12.40) R.A.1941 300Z (Commenced 1.1.41) W.C.C.40303 W.R.A.1941 .303 REM-UMC 32 S & W REM-UMC 38 S & W W.R.A.Co38 Long Special Super Speed .38 W.R.A. Co45 A.C. Western .45 Auto REM-UMC 455 II REM-UMC 50 CAL RA 1941 50 CAL Z W.R.A. 9 M.M.	Winchester Repeating Arms Coy.  -do- Remington Arms Coy.  -do- Western Cartridge Coy. Winchester Repeating Arms Coy. Remington Arms Coy.  -do- Winchester Repeating Arms Coy.  -dododododododod				
	The state of the s					

## 319. PROJECTILE, PRACTICE, Q.F. 40 M.M. MARK II.T.

This projectile is the Mark II.T. H.E. shell filled to design No.12409. The lower portion of the shell contains inert weighting material (i.e. resin and buckshot) with a cavity formed from the underside to accommodate Tracer Igniter No.12. The cavity is lined with a paper tube and a waxed felt washer is positioned around the mouth of the paper tube i.e. immediately above the screwthread of the tracer igniter hole.

The weighting material is covered by a felt disc and above this is cambric bag containing a charge of S.R.274. This bag which is inserted choke downwards fills the upper portion of the projectile between the weighting material and the fuze. The fuze is the D.A. No.251.

The body of the projectile is painted black and has the red ring denoting an explosive filling and a yellow band denoting a practice projectile. The stencilling includes the tracer symbol over the letter "T", the design number of the method of filling and the series number of the filled lot.

#### 320. CARTRIDGES B. L. 5.5-INCH.

There are two cartridges for this gun-howitzer. The cartridge for the howitzer role takes the form of a core with two sections. The core alone is "Charge 1" and has a nominal weight of 2-lb. 11-oz. 8-drs. Cordite W.057 or 3-lb. 1-oz. N.C.T.025. The core with two sections constitutes "Charge 2" and has a nominal weight of 4-lb. 4-oz. Cordite W.057 or 5-lb. N.C.T.025.

This cartridge is packed in container No.28 which is a rolled paper cylinder 16 inches in length and 4.7 inches in diameter. Box, Cartridge No.C.239 holds 10 cartridges, each in a container. The stowage dimensions of this box are 25.4 x 17.6 x 10.3 inches and the estimated weight when packed with cartridges of Cordite W is 77.5 lb.

The second cartridge consists of two portions arranged in prolongation and secured in this position by ties. The rear portion which is "Charge 3" has a nominal weight of 6-lb. 10-oz. 8-drs. Cordite W.104 or 7-lb. 13-oz. N.C.T.047. This charge has a standard igniter at the rear end. With N.C.T. charges there is an addition to the igniter in the form of a shalloon bag of G.12 in the centre of the propellant adjacent to the rear end.

The front portion is used as an increment to "Charge 3" to make up "Charge 4" which has a nominal weight of 9-lb. 2-oz. Cordite W.104 or 10-lb. 14-oz. 8-drs. N.C.T.047. Foil discs are included at the rear end of this increment.

This cartridge is packed in container No.4 which is a rolled paper cylinder 22.75 inches in length and 4.6 inches in diameter. Box, Cartridge No.C.224 holds 6 cartridges, each in a container. The stowage dimensions of this box are 24.7 x 15.3 x 10.2 inches and the estimated weight when packed with cartridges of Cordite W is 80.5-lb.

The following charges are also approved for this equipment :-

Charge 1 2-lb. 15-oz. Cordite N.Q. or N.Q./A 045 Charge 2 4-lb. 12-oz. -do-Charge 3 7-lb. 3-oz. Cordite N.Q./S or N.Q./A/S 158-048 Charge 4 9-lb. 13-oz. -do-

Charge 1 (the core) is fitted with a ring type igniter on the front of the enlarged end in addition to the normal igniter at the base.

Charge 3 has an igniter at both ends and the increment fitted to make up Charge 4 contains foil at the front end.

The 9-1b. 13-oz. charge is packed in container No.39 which is a rolled paper cylinder 23 inches in length and 4.9 inches in diameter. Six Containers are packed in Box Cartridge No.C.255. The stowage dimensions of this box are 25.1 x 16.4 x 10.8 inches.

#### 321. SHEIL, B.L., H.E. 5.5-INCH STREAMLINED MK.I.D.

The method of filling design for this shell (design No.10911) is the same as that described in Item 261 and Fig.83 of Bulletin No.19.

The filled weight is 100-lb. and the stowage dimensions with plug and grummet are  $26.7 \times 6.2$  inches. The weight of the bursting charge is approximately 10-lb.

#### ENEMY AMMUNITION.

#### 322. BOMBS, AIRCRAFT, CHEMICAL (ITALIAN).

The details of the bombs in Fig.107 are as follows :-

Ref.	Description	Weight of Filling Kg.	Weight of Bursting Charge Kg.	Total Weight. Kg.	Fuze
A B C D E F G	C.500 T C.100 P C.40 P C.15 P Spezzone C Doppio Bomba Furreto (Red Cross)	210 14.3 6.5 1.7 .14 .33	1 28.7 13 3.65 .29 .67	298 101.9 47 16 1.55 2.8 25	Time Percussion " " " " "

The following markings are used :-

Red Cross indicating tear gas

White Cross " choking gas

Black Cross " nose gas

Green Cross " blister gas

Red & White Cross " choking gas (Chloropicrin)

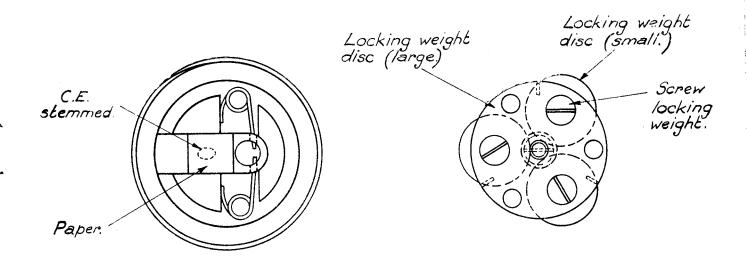
#### 323. AMENDMENTS

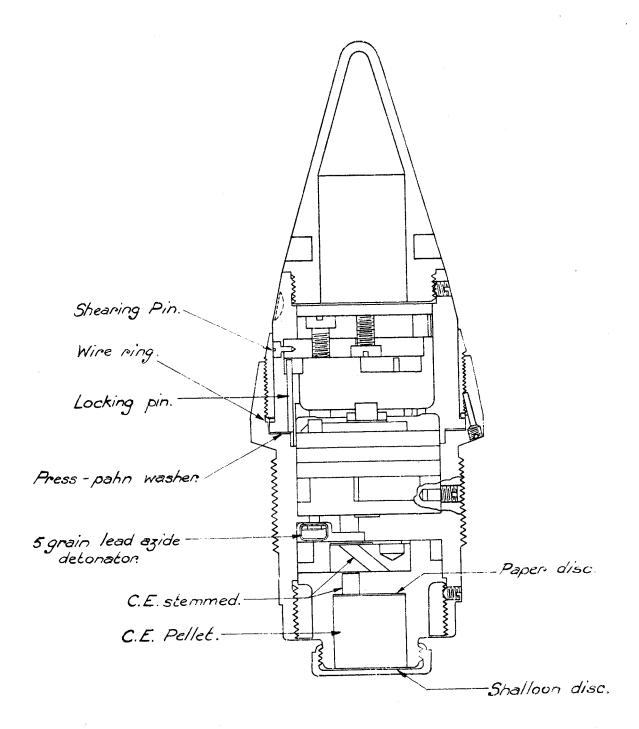
- 1. Bulletin No.20, Item 275, page 5:Line 1 of table heading. Delete "PROPELLANTS" and substitute
  "PROJECTILES".

  Line 4 of column headed "Approx. Len. of Projectile Fuzed"
  (i.e. length of H.E. shell with 117 or 119 fuze). Delete 34.8 and substitute 37.3
- 2. Bulletin No.20, Item 288, Line 7:- Delete "Re-examined" and substitute "Re-examine".

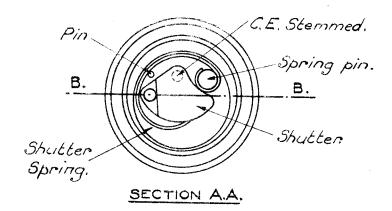
  Add at the end of the item, "Packages containing this ammunition will be similarly stencilled".
- 3. Bulletin No.19, Item 250, Page 4, line 21:- Insert a decimal point in front of "73".

F/G. 105. FUZE, TIME, Nº 208 MK1.





## FUZE, PERCUSSION , D.A., Nº 244.



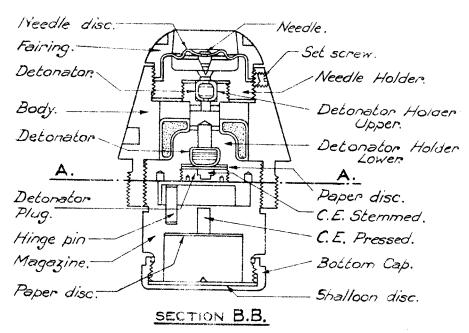
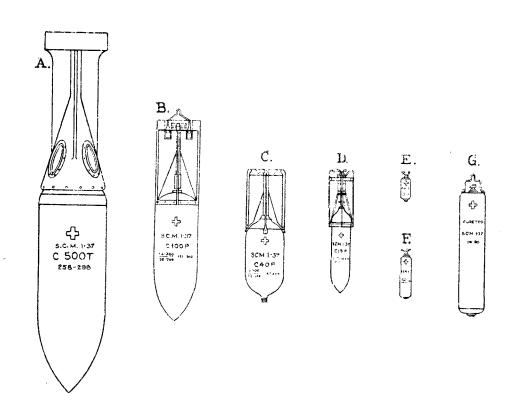


FIG. 107.

ITALIAN CHEMICAL BOMBS.



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